

## **Modern Kriegsspiel Rules: Fourth Edition (2021)**

Kriegsspiel is a tabletop wargame originating in 19<sup>th</sup>-century Prussia as a tool to teach officer cadets tactics and strategy before leading troops into battle. Its rules, originally written by George von Reisswitz and later modified by Erich von Tchischwitz, are incredibly complex, with the purpose of recreating as realistically as possible the battlefields of the time. Kriegsspiel is the ancestor of all modern tabletop wargames, including the ever-popular *Warhammer 40,000*.

Upon rediscovering the old Kriegsspiel manuals in 2018, I wrote more modern rules aiming to recreate the spirit of the original while making it easier to play. It retains its original usefulness. The First Edition (2018), only worked for land battles, but could be adapted to any time and place. By the Second Edition, naval battles had been added, and the 2020 Third Edition included land, sea, and air, effectively uniting all three theaters of war.

This Fourth Edition is designed to be used with the Kriegsspiel program I have designed called Umpire, which is written in Python for the use of the umpire. The Fourth Edition achieves the original ultimate goal of making Kriegsspiel time-independent, place-independent, player number-independent, relatively easy to play, and fully immersive.

### **Basic Mechanics and Principles**

#### **Players and the Umpire**

A Kriegsspiel campaign can be played with at least three players. At minimum, there must be two teams, or militaries, represented by at least one player each, plus an umpire to oversee the game. Militaries may be unified, with one or more players working together and with perfect information, or may be divided, where each player has a subcommand, and even players on a single team do not work together. Unified campaigns are ideal for new players.

The umpire is a universal; every campaign will have an umpire. The umpire's role is to manage the gamespace and track the attributes of each unit. The Kriegsspiel program is designed to eliminate the use of paper-and-pencil by the umpire, and to prevent preferential treatment or cheating on his part.

In contrast to many other tabletop wargames, the players themselves do not touch or alter the gamespace itself. Only the umpire may alter the gamespace, including the battlefield, units, and any other objects. In any dispute over location or position, the umpire's word is final.

#### **Gameplay**

Gameplay of Fourth Edition Kriegsspiel is open-ended. Campaigns are prepared in advance, either based on real or imaginary scenarios. Campaigns will include the units each military will have, the structure of the battlefield, and the scenarios in which each military will win or lose. See the section "Creating a Gamefile" for more details on what goes into a particular campaign.

Gameplay is turn- and command-based. At the beginning of the campaign, a particular military will go first, either chosen at random by the umpire or based on the campaign scenario itself. During a player's turn, they will issue a series of commands to their units. This is done by passing the commands to the umpire silently, either on paper or over a messaging system (the particular manner of delivering commands is irrelevant, provided that the opposing military cannot become aware of them). Commands submitted are final, and the umpire will interpret them as he believes it would realistically be interpreted on a real battlefield. Some units may receive more than one command, but only in a certain order, so it is imperative that the player issue them in the correct sequence. There is no limit to the number of commands that can be issued in a given turn, except as provided for by the attributes of the units and gamespace.

In campaigns involving air warfare, a separate air warfare turn is taken before other commands. In this turn, only air commands can be passed.

### **Gamespace vs. Units**

The gamespace itself consists of the *battlefield*, and the *structures*. The battlefield is composed of the actual natural terrain, whether it be land terrain or the depth and nature of the water, in the case of naval battles. The structures are any manmade thing on the gamespace, including buildings, fortifications, minefields, roads, bridges, and so on. Elements of the gamespace can be either *extrinsic*, that is, built by the players in the course of the game, or *intrinsic*, pre-existing the campaign.

	<b>Intrinsic</b>	<b>Extrinsic</b>
<b>Battlefield</b>	Terrain	Terrain changed by the players (damming a river, clearing a forest, etc.)
<b>Structures</b>	Pre-existing towns, roads, etc.	Fortifications, rebuilt structures.

The elements of the gamespace can be controlled by the players, but only through commands issued to *units*. Units are groups of soldiers, sailors, marines, or airmen, along with their equipment. The nature of the unit is enumerated before the campaign begins, by assigning the unit a unit type. The unit type assigns a variety of attributes that dictate how it behaves on the battlefield.

Distances on the battlefield are given in this manual and in the program itself as dimensionless integers. In the Second and Third Editions, most Kriegsspiel games were played on battlefields measuring about one meter wide and two meters long, so the distances could be directly reckoned

as centimeters. In truth, these distances can be converted to anything, provided the ratios are preserved.

## Unit Attributes

### *Team*

Every unit belongs to a team, and a given unit's allegiance is largely, though not entirely, immutable. Ownership can be changed only for naval units via the commandeering of a ship.

### *Unit Type*

Every unit has a "type." The standard unit types are universal (see the heading "Units and Unit Types") but are altered in reality depending on the time and place of the campaign. For instance, the standard unit type "heavy cavalry" would be "hussars" for the Battle of the Brandywine River. These unit types are very important, as attributes are assigned by *type*, rather than by individual unit, which would be far too clunky and slow.

### *Health*

A unit can represent any number of men, depending on the size and scale of the battle. It can represent as few as a handful of men, or an entire division. Most commonly, a unit represents a battalion of 500 to 1,000 men, but this is by no means standard. Feel free to create campaigns with any desired unit size. Since unit sizes are variable, the health of a unit is measured in Health Points, or HP. When a unit's Health Points reach zero, it is considered dead and removed from the gamespace.

### *Size*

In each campaign, a default unit size is set with the value 1. For instance, if every unit begins a campaign as a battalion, a battalion is defined as unit size 1. Therefore, later on, if two units are merged, its unit size is 2. This size value is used to reckon the multiplier for various commands.

### *Command Tables*

Every command has a command table, which uses the Python dictionary datatype. These command tables have various unit types as keys, while the values are the maximum value for the relevant command for that unit type.

## Communication

Every turn, the player or players representing a particular military will submit their commands to the umpire in writing. All commands for a given turn are to be submitted at once, in the order they should be submitted to their units. Each command should be sent in accordance with its

required syntax. Please note though, that the syntax for a player submitting a command may be different from the syntax for submitting a command to Umpire.

## Installing Umpire

### Prerequisites

There are very few computational prerequisites for the installation of the Umpire program itself. All that is required is the newest version of Python 3. If you want to create your own campaigns, it is recommended that you install an integrated development environment, like VisualStudio Code, PyCharm, or Neovim, if you have not already. The writing style of Umpire is such that it can run, without modification, on any platform.

### Downloading the Repository

To download the Umpire program, go to [github.com/gtfmadrigal/umpire/releases](https://github.com/gtfmadrigal/umpire/releases) and download the latest .zip or .tar.gz. Then, unzip or un-tar the archive or tar-ball. Inside the `umpire/` directory are the following files and subdirectories:

`umpire.py` contains the actual code for the Umpire program itself.

`README.md` contains the GitHub readme file.

`LICENSE` is the GNU General Public License version 3 (Umpire is an open-source program).

`gamefiles/` contains various campaign gamefiles provided by the program.

`documentation/` contains all of the documentation, including this manual, a changelog detailing every Git commit, and notes for every full release.

### Creating a Gamefile

To create a new campaign gamefile, simply follow along with the template provided in `gamefiles/gamefile_template.py`.

### Running a Campaign

#### *Running Umpire*

1. Ensure that `umpire.py` will import the correct gamefile.
2. Open up a new instance of your terminal. The way you do this will differ based on your operating system.
3. Navigate to the `umpire/` directory.
4. Run `umpire.py` with Python 3.
5. If the program will not run, ensure that your version of Python is up to date, and you have not made any mistakes in your gamefile.

## *Entering Commands*

The shell will look as follows:

x ~ y team % \_

Enter your command at this shell. See the section labelled “Commands” to learn each command’s syntax. X represents the round number, and Y the command number.

## **Units and Unit Types**

### **Army Units**

#### *Infantry*

There are three types of infantry units: *regulars*, *engineers*, and *mechanized*. Infantry units can hide, spy, merge and split into larger and smaller meta-units, build fortifications, and move and fire in the same turn. All types of infantry units can participate in the general attack phase, with a maximum damage of 4. Regular and engineer infantry have an initial health of 4 HP, while mechanized infantry units have an initial health of 6 HP. Regular and mechanized infantry units can build fortifications of maximum strength 4, while engineers can build fortifications of maximum strength 8. Regular infantry and engineers have a maximum range of 10 per turn, while mechanized infantry have a range of 15.

#### *Artillery*

There are three types of artillery units: *light*, *medium*, and *heavy*. All artillery units can hide but are revealed if they fire. Their regular attack damage is at most 4, and they cannot move and fire in the same turn. Light artillery units have an initial health of 8, a movement range of 10, and can fire artillery of maximum damage 8 over a range of 30. Medium artillery units have an initial health of 9, a movement range of 7, and artillery damage of maximum 9 over a range of 25. Heavy artillery units have an initial health of 10, a movement range of 5, and artillery damage of maximum 10 over a range of 20. Artillery units can merge or split into larger or smaller units. All artillery units can be converted into infantry.

#### *Cavalry*

There are three types of cavalry units, just like artillery: *light*, *medium*, and *heavy*. All cavalry units can merge and split, and move and fire in the same turn, but cannot hide or spy. Light cavalry units have an initial health of 10 HP, movement of 10, an ordinary combat phase of 6 and shells of 10 over range 30. Medium cavalry units have an initial health of 12 HP, movement of 7, an ordinary combat phase of 8 and shells of 16 over range 25. Heavy cavalry units have an initial health of 16 HP, movement of 5, an ordinary combat phase of 10 and shells of 20 over range 20. All cavalry units can be converted into infantry.

## *Special*

A certain type of pseudo-infantry, called *special*, also exist. They have health of 20, movement range of 15 and can hide but cannot spy. They can merge or split and have an ordinary combat phase attack of 20. They can build fortifications of maximum strength 6 and can move and fire in the same turn.

## **Naval Units**

### *Light Vessels*

Light vessels are seaborne ships that are not generally meant for combat, but rather for transport or littoral combat. There are three types of light vessels: *corvettes*, *amphibious*, and *patrols*. All light vessels have a movement range of 15, a boarding successfulness of 6, and can move and fire in the same turn. Corvettes and amphibious ships can drop depth charges to fight submarines. Corvettes must alter heading to change direction more than 45 degrees, have a maximum health of 4, and an attack damage of 6. Amphibious ships do not need to alter heading, have a maximum health of 4, and an attack damage of 4. Patrol boats do not need to alter heading, have a maximum health of 2, and an attack damage of 4.

### *Heavy Vessels*

Heavy vessels are those ships designed for ocean-based, blue-water combat. There are three types of light vessels: *cruisers*, *destroyers*, and *battleships*. All heavy vessels must change heading in order to alter their course by more than 45 degrees in a particular turn, can drop depth charges, and can move and fire in the same turn. Cruisers have a maximum health of 10, a movement of 7, an attack damage of 16, artillery damage of 20, an air defense of 12, and a boarding effectiveness of 8. Destroyers have a maximum health of 8, a movement of 10, an attack damage of 8, artillery damage of 10, an air defense of 12, and a boarding defense of 10. Destroyers additionally have the power to fire missiles with a maximum damage of 8. Battleships, the largest of the heavy vessels apart from aircraft carriers, have a maximum health of 12, a movement of 5, an attack damage of 12, artillery damage of 16, an air defense of 6, and a boarding defense of 8.

### *Carriers*

Aircraft carriers are weaker than other heavy vessels but make up for this combat weakness with their ability to launch sorties and transport aircraft and units. Carriers have a health of 16, can move 5 units in a given turn provided they do not exceed a heading change of 45 degrees, deal a maximum of 12 ordinary damage, can fire sorties of damage 8, an air defense of 8, can drop depth charges and board other ships at effectiveness 6, and can move and fire in the same turn.

### *Subsurface Vessels*

Subsurface vessels come in two types: *attack submarines* and *missile submarines*. Both are hidden by default, have only 1 health point maximum, can move 15 units in each turn without needing to alter heading, no ordinary attack damage, and can fire torpedoes. However, missile submarines have two added powers: they can fire missiles of damage 16, the highest of any missile, and can also launch nuclear missiles.

## Air and Space Units

### *Fighters*

Fighters come in two types: *light* and *heavy*. Both types of fighters can fire missiles of maximum damage 6, can move and fire in the same turn, and can kamikaze ships and other units. Light fighters have a health of 4, a range of 30 units, an attack damage of 4, and a kamikaze effectiveness of 6. Heavy fighters have a health of 8, a range of 15 units, an attack damage of 6, and a kamikaze effectiveness of 8.

### *Bombers*

Bombers come in two types: *regular* and *stealth*. Both bomber classes have an attack damage of maximum 4, can drop bombs, can fire missiles of maximum 8, drop pulses, and move and fire in the same turn. Regular bombers have a maximum health of 12, a range of 15 units, and can drop bombs of damage 8. Stealth bombers have a maximum health of 10, a range of 10 units, can hide, and can drop bombs of damage 8. Stealth bombers also have the additional ability to drop nuclear bombs.

### *Transport*

Transport planes are primarily meant for ferrying land units to and from locations. They have a maximum health of 12, a range of 30 units, an attack damage of 4, can airlift units, and can move and fire in the same turn.

### *Reconnaissance*

Reconnaissance planes, which are either *regular* or *drones*, are meant for collecting information. Both types have a maximum health of 4, an attack damage of maximum 4, can spy and hide, and move and fire in the same turn. Regular reconnaissance planes have a range of 20 units. Drones have a range of 30 units and can drop bombs of damage 10.

## Commands

For a complete list of command tables and unit type maximums, see the spreadsheet that comes with the program. Here is a list of commands with their correct syntax, sorted by argument length.

## Meta-Commands

*Hide*

**hide [unit]**

Only some units can be hidden as described in the chart: infantry both ordinary and mechanized, engineers, artillery, special forces, submarines, stealth bombers, reconnaissance planes, and drones. A unit can be hidden in certain kinds of terrain and structures depending on the scenario. When a unit is hidden, its representation is removed from the gamespace, and it will remain as such until it is willingly revealed, moved from hideable terrain, fires artillery shells, or exposed by an opponent. Hiding a unit does not prevent it from undertaking other actions.

*Reveal*

**reveal [unit]**

When a unit is hidden, a player can choose to reveal it at any time during its turn. A revealed unit is placed back on the gamespace.

*Convert*

**convert [unit]**

Artillery and cavalry land units can be converted to ordinary infantry. When this takes place, their health is automatically adjusted, and their abilities will change, but nothing will change on the gamespace.

*Merge*

**merge [unit 1] [unit 2] ... > [new unit]**

All land units can merge, provided they are of the same type. A new unit with greater health will be created, and this unit can be treated in the same manner as their subsidiaries. When this takes place, the original will be removed from the gamespace and the new units placed in the same spot.

*Split*

**split [unit] > [unit 1] [unit 2] ...**

All land units can also split, even if they were not originally merged. The newly created units will be weaker than the original. For instance, if an artillery unit is split into two, each new unit will have half the artillery capability and health of the original at the time it was split. When this takes place, the old unit will be removed, and the new ones placed on the gamespace.

*Man*

**man [command]**

This command can be accessed at any time. It simply displays on screen the correct syntax for a given command.

*Message*

**message**

This command is used to allow players to communicate with each other and with their units. There is no guarantee that this command will succeed.

### Theater-agnostic Commands

*Attack*

**attack [unit 1] [unit 2] ... > [target 1] [target 2] ...**

Units with ordinary attacking capability use this command for regular attacks, except for airplanes. Each unit has a maximum attack damage, which may be affected by splitting or merging. In this command, a player will specify which of his units he wishes to attack and attack with. The umpire program will calculate each unit's attack strength and add them together for each team. The difference will be inflicted on the team which scored less, distributed evenly on every attacking or defending unit. Dead units will be removed from the gamespace. Invoking this command prevents a unit from doing anything else for the remainder of the turn, and as such should be called last.

*Move*

**move [unit]**

Every unit has a maximum distance it can travel in each turn. All units, except some ships, can be moved in any direction, up to the maximum distance. The unit's representation is then moved, provided the command was successful. All units except submarines and artillery can move and fire in the same turn.

*Spy*

**spy [unit]**

The spy command can be issued to infantry, mechanized infantry, and engineers. Occasionally, its use will provide information about the enemy's hidden units or strength. This information may be true or false, useful or not, and its veracity and success rate depend on the game state.

*Fire*

**fire [unit 1] [unit 2] ... > [target 1] [target 2] ...**

While the attack command is dual-sided (the defending team has a chance to not only reduce an attack's damage but could inflict damage on the attacking team), the fire command is single sided,

and the defending team cannot defend against its use. Fire is available to artillery, cavalry, corvettes, cruisers, destroyers and battleships. The user can specify as many firing units and as many targets as they would like. Each firing unit has a damage amount generated based on its type, which is summed and divided across every target. A unit cannot fire and move in the same turn.

## Naval Commands

*Heading*

**heading [unit]**

Corvettes, cruisers, destroyers, battleships, and cruisers can only alter their direction by 45 degrees in each turn when moving. If a player wants to change a ship's course by more than that, they must invoke the heading command, which cannot be used in the same turn alongside move.

*Torpedo*

**torpedo [unit] > [target]**

Submarines can fire torpedoes at ships. The target ship has a 1 in 6 chance to be sunk instantly. Otherwise, between 1 and 5 damage will be dealt to the ship.

*Sortie*

**sortie [unit] > [target]**

Carriers can launch sorties of planes at other ships. All ships except patrol boats have a set amount of air defense. Both the sortie attack amount and air defense amount are calculated. The difference, if positive, is inflicted on the target ship. If negative, the attack is repelled.

*Depthcharge*

**depthcharge [unit] > [target]**

All ships except patrol boats can drop depth charges to ward off submarines. If a submarine is nearby, a depth charge has a 1 in 6 chance to sink it, a further 1 in 6 chance to disable it for a turn, and a 4 in 6 chance to miss. If a submarine is sunk, the player dropping the depth charge will be notified, but no information will be delivered otherwise.

*Board*

**board [unit] > [target]**

All ships except patrol boats can board another ship if it is close by. They have a small chance to seize the ship, a further small chance to sink the ship, and a more substantial chance to disable or damage the ship being boarded.

*Nuke*

**nuke [unit] > [target]**

Missile submarines and stealth bombers can launch or drop a very limited number of nuclear bombs on single units or structures. Target units or structures directly in the way are immediately destroyed, units or structures near to the drop site can suffer half damage, and units or structures somewhat near can suffer quarter damage.

## **Army Commands**

*Build*

**build [unit]**

Infantry, mechanized infantry, special forces, and engineer units can build structures, including fortifications and buildings. These structures can be used to defend against attacks or hide units. These structures have a name and a health value and can be referenced in commands. They are represented on the gamespace as well.

*Missile*

**missile [unit] > [target]**

Destroyers, missile submarines, fighters, and bombers, can fire missiles, which unlike the fire command, can be defended against by other units also able to fire missiles. In these cases, the difference in value is inflicted upon the target. For other units, the total damage is inflicted. Only one target can be specified per command.

## **Air Force Commands**

*Takeoff*

**takeoff [unit]**

For airplanes to be usable during the air warfare turn, they have to takeoff first.

*Land*

**land [unit]**

At the end of the air warfare turn, every plane must land at a nearby airfield or aircraft carrier. If they cannot, or if they fail to do so, a plane still in the air by the end of the air warfare turn crashes and is lost.

*Pulse*

**pulse [unit] > [target 1] [target 2] ...**

Bombers and stealth bombers can drop electromagnetic pulses on groups of units that are together. When successful, target units are disabled, but suffer no damage.

*Airlift*

**airlift [plane] > [unit]**

Transport planes can be used to airlift certain units (depending on the weight of the unit in question) long distances.

*Kamikaze*

**kamikaze [unit] > [target]**

Fighter planes can fly into ships. For light fighters, they have a 1 in 6 chance to sink the ship immediately. Otherwise, between 1 and 5 damage will be inflicted. For heavy fighters, the instant sink chance is 1 in 8. Otherwise, between 1 and 7 damage will be inflicted.

*Missile*

**missile [unit] > [target]**

The air missile command has the same syntax and use as the regular missile command but is made up of separate code in the Umpire program.

*Dogfight*

**dogfight [unit 1] [unit 2] ... > [target 1] [target 2] ...**

The dogfight command has similar syntax and the same purpose as the army or navy attack command.

*Bomb*

**bomb [unit] > [target 1] [target 2] ...**

The bomb command has similar syntax and the same purpose as the army or navy bomb fire command.

*Survey*

**survey [unit]**

The survey command has similar syntax and the same purpose as the army spy command.

Unit Type	Health	Move	Hide	Spy	Attack	Merge	Convert	Fire	Build	Move+Fire
Infantry	4	10	TRUE	TRUE	4	TRUE			4	TRUE
Engineers	4	10	TRUE	TRUE	4	TRUE			8	TRUE
Mechanized	6	15	TRUE	TRUE	4	TRUE			4	TRUE
Light Artillery	8	10	TRUE		4	TRUE	TRUE	8		
Medium Artillery	9	7	TRUE		4	TRUE	TRUE	9		
Heavy Artillery	10	5	TRUE		4	TRUE	TRUE	10		
Light Cavalry	12	10			6	TRUE	TRUE	12		TRUE
Medium Cavalry	14	7			8	TRUE	TRUE	16		TRUE
Heavy Cavalry	16	5			10	TRUE	TRUE	20		TRUE
Special Forces	20	15	TRUE		20	TRUE			6	TRUE

Unit Type	Health	Move	Hide	Attack	Fire	Heading	Torpedo	AirDef.	Depthcharge	Board	Missile	Move+Fire
Corvette	4	15		6	6	TRUE		12	TRUE	6		TRUE
Amphibious	4	15		4				4	TRUE	6		TRUE
Patrol	2	15		4						6		TRUE
Cruiser	10	7		16	20	TRUE		12	TRUE	8		TRUE
Destroyer	8	10		8	10	TRUE		12	TRUE	10	8	TRUE
Battleship	12	5		12	16	TRUE		6	TRUE	8		TRUE
Carrier	16	5		12		TRUE		8/8	TRUE	6		TRUE
Attack Submarine	1	15	TRUE				TRUE					
MissileSubmarine	1	15	TRUE				TRUE				16/30	

Unit Type	Health	Move	Hide	Survey	Attack	Bomb	Missile	Pulse	Airlift	Kamikaze	Move+Fire
Light Fighter	4	30			4		6			6	TRUE
Heavy Fighter	8	15			6		6			8	TRUE
Bomber	12	15			4	8	8	TRUE			TRUE
Stealth Bomber	10	10	TRUE		4	6	8/16	TRUE			TRUE
Reconnaissance	4	20	TRUE	TRUE	4						TRUE
Transport	12	30			4				TRUE		TRUE
Drone	4	30	TRUE	TRUE	4	10					TRUE